

REMARKS

The Examiner states in item 1 on page 2 of the Official Action that Applicants have not filed a certified copy of the priority document. Applicants' attorney's records indicate that the priority document was submitted on January 4, 2002 and enclose a copy of the postcard receipt thereof dated February 5, 2002.

In response to the Examiner's objection to the Specification, Applicants have amended the same to add the suggested heading before the description of the Figures.

The Examiner has identified a number of objections in Claims 1-17, and accordingly has rejected said claims under 35 U.S.C. §112 (second paragraph). See item 4 on pages 2-4 of the Official Action. By this amendment Claims 1-17 have now been cancelled, and new Claims 18-25 have been added. None of said new claims are believed to introduce any new matter and all of said new claims are believed to be free of the defects identified by the Examiner in the originally filed Claims 1-17 which are no longer pending in this case.

On the merits, the Examiner has rejected Claims 1-6 under 35 U.S.C. §102(a) as anticipated by DE 10032143 (Schwabe) for the reason set forth in item 6 of the Official Action at page 4.

Further the Examiner has rejected Claims 1-6 under 35 U.S.C. §102(a) as anticipated by WO 01/23898 (Schwabe). See item 7 on pages 4 and 5 of the Official Action.

Applicants believe that the foregoing grounds of rejection are now moot in view of the cancellation of Claims 1-6.

Further on the merits, the Examiner has rejected Claims 1-17 under 35 U.S.C. §102(b) as anticipated by EP 0661543 (Boehringer *et al.*). The Examiner's arguments in support of this rejection are advanced in item 8 on page 5 of the Official Action. Applicants respectfully

traverse the Examiner's rejection predicated on either EP 0661543 and/or WO 01/23897 to the extent said grounds for rejection are not mooted by the cancellation of Claims 1-17, and addition of new Claims 18-25.

WO 01/23897 discloses a transmitter system based on the Ferraris principle, having an acceleration transmitter and a position transmitter, with a measure embodiment advantageously applied.

EP 0,661,543 describes a transmitter system based on the Ferraris principle, in which, according to the invention, the rotary acceleration and the angular location are measured in the same place.

While the two cited references do suggest using a sensor based on the Ferraris principle, they serve to solve entirely different problems. Moreover Applicants' claims are now addressed to the two embodiments of the invention disclosed in Figs. 5, 6 and 7, wherein a magnetic field sensor is additionally introduced, delivering the additional measurement signal. With the aid of this measurement signal, the current I_K through the compensation coils is regulated. Further, the signal of the magnetic field sensor according to Figs. 6 and 7 is employed to calculate the output signal of the acceleration sensor. The use of an additional magnetic field sensor as input to regulate the current I_K through the compensation coils and to calculate the output signal of the acceleration sensor is neither disclosed nor suggested in the cited sources, so that we consider this step to be novel and inventive.

Applicants submit herewith, by way of a Supplemental Information Disclosure Statement DE 198 28 372 A1 which came to light in the prosecution of the application in Germany corresponding herewith.

In view of the amendment and remarks herein, Applicants respectfully request reconsideration and allowance of the pending Claims 18-25.

The Commissioner is hereby authorized to charge payment of any fee associated with this communication to Deposit Account No. 02-4377.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "Version with markings to show changes made".

Respectfully submitted,
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VERSION WITH MARKINGS TO SHOW CHANGES MADE

Please amend the Specification as follows:

At page 9, line 1 add the heading:

"Brief Description of the Drawings.

Further advantages and details of the invention will be apparent from the detailed description below and in conjunction with the drawings in which:";

In the Claims

Please amend the Claims as follows:

Delete Claims 1-17.

Add the following new Claims:

18. A circuit apparatus for evaluating an acceleration sensor on the Ferraris principle, comprising an inductive measurement head, in which, with a movable Ferraris disk, essentially over a principal magnetic field, and which yields an acceleration-dependent quantity, further comprising an additional direct-current magnetic field excitation circuit having triggering means to cause the additional direct-current magnetic field to act compensatingly on an eddy-current field occurring from a higher rotational speed of the Ferraris disk on an excitation coil delivering a direct-current magnetic field compensating the occurring eddy-current field, said excitation coil being traversed by a direct current controlled by the direct-current magnetic field excitation circuit, further comprising a magnetic field sensor provided for measurement of a magnetic field in the sensor, said sensor outputting a signal for regulating the current through the excitation coil.
19. The circuit apparatus according to claim 1, wherein the magnetic field sensor is configured as a Hall sensor or XMR sensor.

20. The circuit apparatus according to claim 18, wherein, in terms of the measurement of the magnetic field sensor a magnetic field in a vortex is regulable to a preassignable value, including zero.

21. The circuit apparatus according to claim 18, further comprising a detector coil to detect a voltage induced by the magnetic field of the acceleration sensor, including a field in a vortex.

22. The circuit apparatus according to claim 18, wherein, a quantity proportional to a voltage induced by the magnetic field of the acceleration sensor, including the magnetic field in a vortex, is generated by a means of differentiating the said magnetic field.

23. The circuit apparatus according to claims 21 and 22, wherein the direct current yields a low-frequency component of the acceleration, and the voltage induced by the magnetic field of the acceleration sensor, including the magnetic field in the vortex, or the quantity proportional thereto, yields a high-frequency component of the acceleration, and the two signals are combinable to a broad-band acceleration signal.

24. The circuit apparatus according to claim 20, wherein, by addition of a measured value of the magnetic field sensor to the compensation current, a broad-band value proportional to the rotational speed is determinable.

25. A digitally controlled machine tool, comprising an acceleration sensor according to the Ferraris principle, and an evaluating circuit according to claim 18.--